

Serial No. 10725701

### REMARKS

This amendment is responsive to the Official Action dated March 10, 2005.

Claims 1 - 7 were pending in the application.

No claims were amended or canceled.

Claims 1-7 remain pending.

#### Extension of Time:

The 3-month shortened statutory period for response ended June 10, 2005. The Applicant has enclosed herewith the required extension of time for response.

#### Claim Rejections under 35 USC §103(a):

Claims 1-7 were rejected under 35 USC §103 as being unpatentable over the US Patent Publication to Lingier (2004/0005417) in view of the US Patent to Fukuda (6677389).

As a basis for the rejection the Examiner stated the following:

*Lingier et al disclose an ink jet recording material including a paper or film substrate and an ink-receiving layer containing a binder and cationic inorganic particles [0029, 0035, 0038-0039]. The cationic particles may be silica that has been modified with a cationic resin [0045, 0047, 0048]. The resins may have amino groups or quaternary ammonium groups. The reference discusses the formation of a glossy ink-receiving layer [0051]. The reference also discloses inclusion of zirconium complexes and plasticizers as known additives [0060, 0062]. BACOTE 20®, referred to in the reference, is a zirconium ammonium carbonate salt.*

*The secondary reference teaches the formation of a cationized silica dispersion for use in making ink jet recording paper and other materials. To form cationized silica, resins including polyethyleneimine and polyvinylamine may be used to treat the silica (col. 3, lines 32-50). Based upon the disclosure of the primary reference to include silica that has been made cationic by treatment with an organic compound having an amino group or quaternary ammonium group, it would have been obvious to treat the silica of the primary reference with one of the specific*

Serial No. 10725701

*cationic amino group containing resins discloses for this purpose in the secondary reference in order to render the silica of the primary reference cationic. (paragraph 1).*

The Applicant respectfully disagrees with the characterization of the cited references, and requests reconsideration of the claims as originally filed.

Claim 1, as pending, requires an ink-receptive layer comprising at least 5% polymer film-forming binder and at least 5% of dye-fixative particles wherein the dye-fixative particles are selected from a groups consisting of the following 5 specific items:

- silica particles with pendant polyvinylamine
- silica particles with pendant polyethylenimine
- silica particles with pendant trimethylammonium chloride
- silica particles with pendant pyridine groups
- polystyrene particles with pendant piperidinometyl groups

The US Patent to Lingier discloses an ink-receptive media including a substrate (support) and an ink receptive layer. The ink receptive layer comprises a binder, such as PVA, and a pigment. The pigment may be a cationically modified silica, and the cationically modified silica may be prepared by several methods as described in paragraphs [0045 - 0048]. In paragraph [0047], Lingier discloses that the silica can be made cationic by subjecting it to a surface treatment with an organic compound having both an amino group or quarternary ammonium group, and a functional group. However, Lingier does not disclose any specific form of silica (i.e. silica containing the defined pendant groups) as currently claimed.

To overcome the deficiency of Lingier, the Examiner cites Fukuda as disclosing methods of treating silica with various cationic resins, and that it would have been obvious to treat the silica of the primary reference with the resins of the secondary to achieve the claimed silica compositions. However, Fukuda only discloses dry processed silica dispersed in a cationic resin, and does not teach or suggest that the dry processed silica includes the claimed pendant groups, either before dispersion or after dispersion.

Serial No. 10725701

Fukuda discloses a cationized silica dispersion prepared by dispersing dry processed silica and a cationic resin in a polar solvent.

Claim 1 recites that the ink receptive layer comprises a binder and silica with specific pendant groups. The Examples as rendered in the present application identify that the silica used in the claimed ink-receptive layer is previously treated so as to contain the pendant groups prior to dispersion with the resin binder, i.e. the silica is not treated by the resin binder, but is pretreated prior to mixing with the resin binder.

The Examiner identifies column 3, lines 32-50 of Fukuda to support a claim that the cationic resins treat the silica so that the silica thereafter contains the claimed pendant groups. However, the cited text of Fukuda does not contain any such information. The cited text recites that the cationic resin is not specifically restricted as long as it is a resin, which is dissociated when dissolved in water to show a cationic property, and that the list of cationic resins includes resins having a primary to tertiary amine group or quarternary ammonium salt group. The cited text does not recite that the silica is chemically modified to contain the claimed pendant groups, but rather that the surface charge of the silica may be affected by the cationic resin (see column 4, lines 12-17).

*"If an amount of the above-cationic resin is smaller than one part by weight per 100 parts by weight of the dry processed silica, a surface charge on the silica particles becomes uneven, and the silica particles tend to be liable to cause firm coagulation." Col. 4, lines 12-17.*

There is no specific discussion that once the dry processed silica is dispersed with the resin binder that the silica is "treated" by the resin binder, i.e. to chemically take on pendant groups. The only indication is that the surface charge is affected. The vague reference to a change in the surface charge of the silica upon dispersion is no believed to be sufficient to support the use of pretreated silica containing specific the pendant groups as recited in claimed in claim 1.

Accordingly, because there is no explicit teaching that the silica in Fukuda is chemically modified to include the claimed pendant groups, the Examiner's contention that it would have been obvious to treat the silica of the primary reference (Lingier) with one of the

Serial No. 10725701

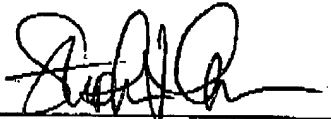
specific cationic amino group containing resins disclosed in Fukuda is not supported by Fukuda.

Claims 1-7 are thus believed to contain patentable subject matter.

Withdrawal of the obviousness rejection and favorable consideration on the merits is respectfully requested.

PTO is authorized to charge any additional fees incurred as a result of the filing hereof or credit any overpayment to our account #02-0900.

Respectfully submitted,



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